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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/621,252 | 07/16/2003 | Kuo-Feng Chen | 67,200-569A | 1265 |

7590 04/27/2004
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EXAMINER

STINSON, FRANKIE L.

ART UNIT PAPER NUMBER

1746

DATE MAILED: 04/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/621,252

Applicant(s)

KUO-FENG ET AL.

Examiner

FRANKIE L. STINSON

Art Unit

1746

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 21-26 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 21-26 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 21 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over either Germany'272, Abe et al., or Mertens et al. in view of Czaja et al.

Re claim 21, Germany'272, Abe and Mertens are cited disclosing an apparatus comprising: a wafer jig (6 in Germany'272, unnumbered in Abe, see fig. 13 and 101 in Mertens, see fig 10) constructed and arranged to carry a semiconductor wafer therein, wherein the wafer jig includes an opening therein for exposing a top surface of the semiconductor wafer; a wetting solution supply tank (136 in Czaja, not shown in Abe and Mertens) and a spray module (14 in Germany'272, 710, 720 in Abe and not shown in Mertens, see col. 14, lines 9 in Mertens) that differs from the claim only in the recitation of the pump. The patent to Czaja is cited disclosing in apparatus for processing wafer, a jig and a pump for pumping fluid from a supply tank and to the article being treated. It therefore would have been obvious to one having ordinary skill in the art to modify the apparatus of either Germany'272, Abe or Mertens, to include a pump as taught by Czaja, for the purpose of positively moving the fluid and since although not disclose, the same must obvious be provide for fluid movement. Re claim 21, Germany'272, Abe and Mertens disclose the relative movement as claimed.

3. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over either Germany'272, Abe et al. or Mertens et al. in view of Czaja et al. as applied to claim 21 above, and further in view of either Kobayashi et al. or Japan'430.

Claim 23 defines over the applied prior art only in the recitation of the jig being oscillated in the vertical direction. Kobayashi and Japan'430 are both cited disclosing in an apparatus for treating semiconductor wafers, means (13 in Kobayashi and 32 in Japan'430) for oscillating a jig vertically. It therefore would have been obvious to one having ordinary skill in the art to modify the device of either Germany'272, Abe or Mertens, to have the jig oscillated vertically as taught by either Kobayashi or Japan'430, for the purpose of enhancing the cleaning process.

4. Claims 24-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over the applied prior art as applied to claim 21 above, and further in view of either Kanno (U. S. Pat. No. 5,934,566) or Fishkin et al.

Claim 24 defines over the applied prior art only in the recitation of the spray module being constructed and arranged to spray wetting solution particles. Kanno'566 and Fishkin are both cited disclosing in a wafer cleaning apparatus, the arrangement of providing a spray module constructed and arranged to spray wetting solution particles. It therefore would have been obvious to one having ordinary skill in the art to modify the spraying module of either Germany'272, Abe or Mertens, to spray wetting solution particles as taught by either Kanno'566 or Fishkin, for the purpose of enhancing the contaminate removal process. Re claim 25, Kanno'566 disclose the diameter as claimed. Re claim 26, to have the nozzle arranged in a set of three is deemed to be an

obvious matter of design in that the same is consider a substitution of equivalents in view of the modules as taught by the applied prior art (see MPEP 2144.06).

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. In Segawa, Bok et al., Japan'120, Kosic, Yoshizawa, Japan'999, Foederl et al., Ondera, Bankes et al., Kinoshita et al., Japan'268, Japan'629, Wang et al., Oya et al., Kanno'567, Japan'267, Stanasolovich et al., Japan'738, Kanno'380 and Kanno'718, note the wafer treating means .

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to FRANKIE L. STINSON whose telephone number is (571) 272-1308. The examiner can normally be reached M-F from 5:30 a.m. to 2:00 p.m. and some Saturdays from 5:30 a.m. to 11:30 a.m.

The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application should be directed to TECHNOLOGY CENTER 1700 (571) 272-1700.

Any inquiry for missing parts of this Office Action (copies of references, pages, forms etc.), contact the TEAM LEADER Ms. Nicol Scott (571) 272-1045.

fls



FRANKIE L. STINSON
Primary Examiner
Art Unit 1746